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| APPLICATION NO.                                                                                          | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|----------------------------------------------------------------------------------------------------------|-------------|----------------------|---------------------|------------------|
| 10/500,543                                                                                               | 12/20/2004  | Jorg Schottek        | LU 6001 (US)        | 6726             |
| 34872                                                                                                    | 7590        | 05/09/2008           |                     |                  |
| Basell USA Inc.<br>Delaware Corporate Center II<br>2 Righter Parkway, Suite #300<br>Wilmington, DE 19803 |             |                      |                     |                  |
| EXAMINER                                                                                                 |             |                      |                     |                  |
| LEE, RIP A                                                                                               |             |                      |                     |                  |
| ART UNIT                                                                                                 |             | PAPER NUMBER         |                     |                  |
| 1796                                                                                                     |             |                      |                     |                  |
| MAIL DATE                                                                                                |             | DELIVERY MODE        |                     |                  |
| 05/09/2008                                                                                               |             | PAPER                |                     |                  |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/500,543

**Applicant(s)**

SCHOTTEK ET AL.

**Examiner**

RIP A. LEE

**Art Unit**

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on February 28, 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 3-6 and 9-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3-6 and 9-11 is/are rejected.
- 7) ☒ Claim(s) 3, 4, 9 and 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/S508)  
Paper No(s)/Mail Date 02-28-2008
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

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### **DETAILED ACTION**

This office action follows a request for continued examination (RCE) under 37 § C.F.R. 1.114, filed on February 28, 2008. Claims 3-6 and 9-11 are pending.

#### ***Claim Objections***

1. Claims 3, 4, 9, and 10 are objected to because of the following informalities: In the description of D, please delete the term "ligand." That is, D is simply an uncharged Lewis base. Appropriate corrections are required.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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4. Claims 3-6 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Resconi *et al.* (U.S. 6,191,294).

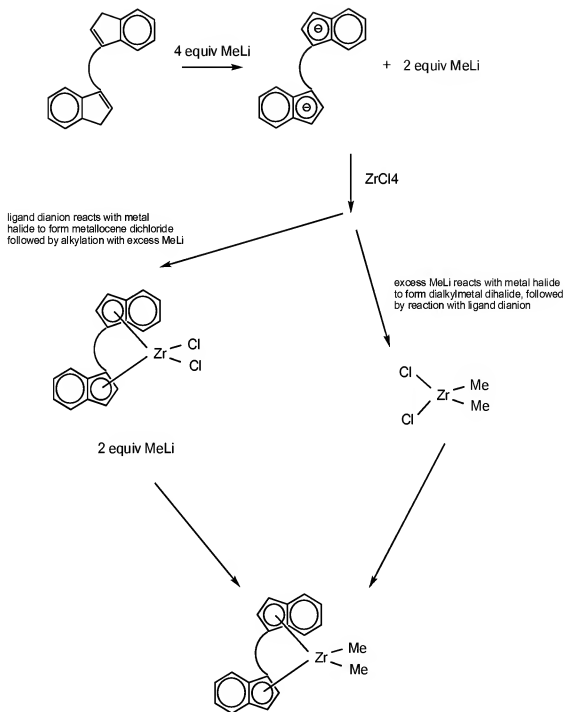
A process for the racemoselective preparation of silicon-bridged dialkyl ansa-metallocenes of formula (I) which comprises contacting a starting ligand compound of formula (II) with a transition metal dialkyl compound of formula (III) wherein the transition metal dialkyl compound of formula (III) is produced above -30 °C by combining a compound  $M^1X_{n+2}$  with from 2 to 2.5 equivalents of a compound  $R^1M^3$  in the presence of a ligand compound D.

Resconi *et al.* (U.S. 6,191,294) teaches a general synthesis for a series of metallocene dialkyl complexes. The compound  $Me_2Si(2-MeInd)_2MMe_2$  is described in col. 5, line 26, and it would be obvious to apply the general synthetic procedure to make this specific compound. Example 1 of the patent discloses treatment of neutral ligand with four equivalents of MeLi in  $Et_2O$  at -20 °C. The resulting solution is cooled to -80 °C and then added to  $ZrCl_4$ /pentane slurry, also maintained at -80 °C. The reaction mixture is then allowed to warm to room temperature. In this reaction,  $Et_2O$  is considered the uncharged Lewis base D of formula (III) of the claim.

The reactions disclosed in the prior art are likely to proceed via two pathways, shown below; ring substituents omitted for clarity. It is clear that deprotonation of the ligand occurs in the first step. Subsequently, one reaction pathway (shown on the left) involves complexation to form metallocene dichloride, followed by alkylation with excess MeLi to form metallocene dialkyl. The second reaction pathway involves reaction of excess MeLi with  $ZrCl_4$ , with concomitant formation of  $Me_2ZrCl_2$  (shown on the right). Reaction with ligand dianion results in the formation of the metallocene dialkyl.

The reaction pathway on the right is germane to the subject of the instant claims. In this case, formation of  $Me_2ZrCl_2$  appears to take place above -30 °C (as the reaction warms to room temperature). Although the reaction mechanism is not disclosed in the reference, a reasonable basis exists to believe that the reaction occurs by the path shown on the right, and since the PTO can not conduct experiments, the burden of proof is shifted to Applicant to establish any unobviousness differences. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

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5. Claims 3-6 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Resconi *et al.* (WO 02/83699).

Resconi *et al.* (WO 02/83699) teaches a general synthesis for a series of metallocene dialkyl complexes. Example 3 of the patent discloses treatment of neutral ligand (indenyl) with four equivalents of MeLi in Et<sub>2</sub>O at room temperature, resulting in the formation of Ind<sub>2</sub>ZrMe<sub>2</sub>. The dimethyl complex is then converted to its dichloride derivative in a subsequent step. The compound Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrCl<sub>2</sub> is described on page 8, line 15, and it would have been just as obvious to extend this synthesis for the preparation of Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrMe<sub>2</sub> in order to make Me<sub>2</sub>Si(2-MeInd)<sub>2</sub>ZrCl<sub>2</sub>. As elucidated in the previous paragraph, the reaction of interest can proceed via the pathway shown on the right, and in this event, combination of ligand (II) with a transition metal dialkyl compound of formula (III) is carried out well above -30 °C. Although the reaction mechanism is not disclosed in the reference, a reasonable basis exists to believe that the reaction occurs by the path shown on the right, and since the PTO can not conduct experiments, the burden of proof is shifted to Applicant to establish any unobviousness differences. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

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The prior art made of record but not relied upon is considered pertinent to the Applicant's disclosure. The following references have been cited to show the state of the art with respect to synthesis of metallocenes using the methodology presented in Resconi *et al.* (U.S. 6,191,294) and Resconi *et al.* (WO 02/83699). The art represents obvious variations of the same reaction sequence.

Resconi *et al.* WO 00/75151

Balboni *et al.*, *Inorg. Chem.* **2001**, *40*, 6588-6597.

Resconi *et al.* *Organometallics* **2000**, *19*, 420-429.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rip A. Lee whose telephone number is (571)272-1104. The examiner can be reached on Monday through Friday from 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu S. Jagannathan, can be reached at (571)272-1119. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <<http://pair-direct.uspto.gov>>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

/Rip A. Lee/

Primary Examiner, Art Unit 1796

May 5, 2008